JA-180B Wireless acoustic glass-break detector

*The JA-180B is a component of the **JABLOTRON JA-100** system. It is used to detect the breaking of glass window panes and glass surfaces in buildings. It reacts to the change of air pressure accompanied by the characteristic sound of breaking glass. This solution has a high reaction reliability for glass-break detection. The detection sensitivity is very easily adjustable according to distance and the dimensions of the protected windows. The detector has a high immunity against RF jamming and other signals with negative effects. It has been designed for mounting on a flat surface. The detector should be installed by a trained technician with a valid certificate issued by an authorised distributor.*

Installation

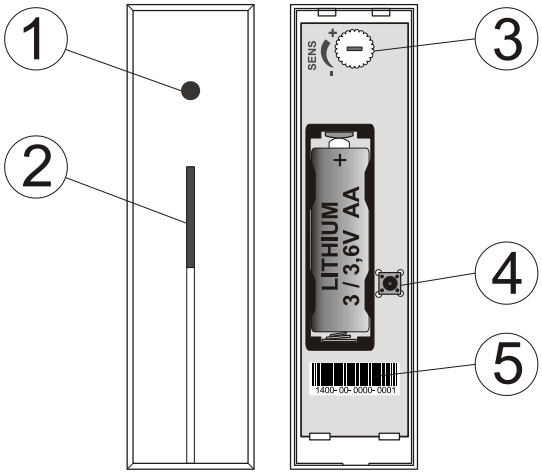


Figure: 1 – sound sensor; 2 – red LED activation indicator, 3 – trimmer for pressure sensitivity adjusting, 4 – tamper contact; 5 – production code

The detector should be installed indoors on a flat wall. There should be no sources of noise, vibration emitting devices or moving objects which can create a shock wave in the detection field. It is also not recommended to install the detector in places with over-intense air circulation (close to ventilators, heat sources, air conditioning outlets, non-airtight doors, etc.). There should be no sound–absorbing obstacles (e.g. heavy curtains) in front of the detector.

1. Open the detector cover by pushing the tab.
2. Attach the plastic base to the selected place on the wall using screws.
3. Proceed according to the control panel installation manual. Basic procedure:
   a. There must be a JA-110R radio module installed in the control panel.
   b. Go to the ***F-Link*** software, select the required position in the ***Devices*** window and launch the enrollment mode by clicking on the *Enroll* option.
   c. Insert the battery (mind the correct polarity). When the battery has been inserted into the detector, an enrollment signal is transmitted to the control panel and the detector is enrolled to the selected position.
4. Close the detector cover.

Note: The detector can also be enrolled into the system by entering its production code (5) in the F-Link software (1400-00-0000-0001). The production code is visible on the sticker glued on PCB.

Detector testing and setting

When the cover has been closed this is followed by a 15 minute test mode when the detector indicates every activation by a red indication LED (2).

Short flash = air pressure change (hitting the glass)

Long flash = alarm triggered by glass breaking

Alignment procedure (set up):

- Using a suitable tool or your own hand protected by gloves, carefully hit all the glass panes in the protected area (do it very carefully to make the glass deform, avoid any glass breaking).
- The detector reacts to deformation (room air pressure changes) by a short flash of the red LED (2).
- Detector sensitivity to air pressure changes can be adjusted by a trimmer (3) inside the detector. Clockwise adjusting sets a higher sensitivity – too high a sensitivity could give a shorter battery life time.
- For complete testing of the detector you can use a GBT-212 tester which generates the glass breaking sound after a hit on glass is detected. Then the red LED indicator will light for 2s.

Glass break detector in a building entrance: sometimes it could create a false alarm during door opening (an opening door generates air pressure changes and scratching the door on the floor or keys ringing while unlocking the door creates sounds similar to glass breaking sounds). In this case we recommend you to program an delay reaction for this detector.

Recommendation: if there is an automatic device which creates sounds (telephone, door-bell, gong, air conditioning, heating devices …) check that these devices do not trigger the glass break detector. If it does, it is necessary to move the detector somewhere else or to avoid using the device which can create a false alarm during system guarding of this area.

Battery replacement

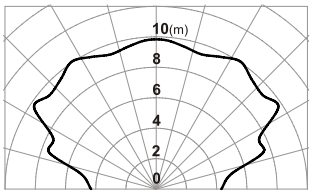
The detector monitors its battery voltage and if it is too low, a report is sent to the control panel to inform the user or service technician. The detector continues to function and also indicates an air pressure change by a short LED flash. Battery replacement should be done by a qualified technician with the control panel in Service mode within 14 days of the report. When the battery has been replaced then the detector needs 120s to stabilise itself – the red LED lights permanently. When the red LED goes off test the detector functions.

Detection characteristics

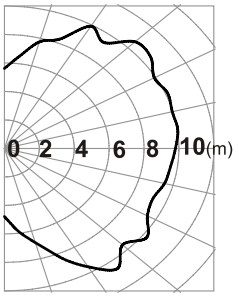
The directional response of the glass-break sensor has near spherical characteristics and it is possible to detect breaking glass up to 9 meters away as can be seen in the below diagram. The size of glass should be at least 60 by 60 cm. For smaller sizes the detection range can be shorter. Only breaking glass forming part of the walls within the protected area can be detected. All kinds of glass can be protected including windows covered with unbreakable foil.

Caution: this type of detector is not suited to sensing holes being cut through glass by glass cutter. For this reason, valuables near windows should be covered by PIR detectors.

Detection range



Top view



Side view

Technical specifications

Power	*Lithium battery type LS(T)14500 (3.6 V / 2.4 Ah AA)*
Typical battery lifetime	*about 3 years*
Communication band	*868.1 MHz, JABLOTRON protocol*
Communication range	*approx. 100m (open area)*
Detecting distance	*up to 9m*
Operational environment according to EN 50131-1	*II. General indoor*
Operational temperature range	*-10 to +40 °C*
Dimensions, weight	*107 x 28 x 24 mm, 55 g*
Classification according to	*EN 50131-1, EN 50131-2-7-1, EN 50131-5-3 Grade II*
Also complies with	*ETSI EN 300220, EN 50130-4, EN 55022, EN 60950-1*
Can be operated according to	*ERC REC 70-03*

JABLOTRON ALARMS Inc. hereby declares that the JA-180B is in compliance with the essential requirements and other relevant provisions of Directive 1999/5/EC and 2011/65/EU. The original of the conformity assessment can be found at www.jablotron.com - Technical Support section

***Note:** Although this product does not contain any harmful materials we suggest you return the product to the dealer or directly to the producer after use.*